

CLAIMS:

1. Filterbank-based modulation system comprising a sender with a sender-processor for processing data and sending processed data to a receiver and comprising said receiver with a receiver-processor for receiving and processing said processed data, which sender-processor comprises an inverse-fast-fourier-transformating-module and a filtering-module and which receiver-processor comprises a fast-fourier-transformating-module, said sender-processor comprising a coding-module with a further-filtering-module in at least one feedback loop, which coding-module is situated before said inverse-fast-fourier-transformating-module, with said receiver-processor comprising a decoding-module situated after said fast-fourier-transformating-module.

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2. Filterbank-based modulation system according to claim 1, wherein said sender-processor comprises a splitting-module for splitting said data into signal streams and a combining-module for combining signal streams into said processed data, with said inverse-fast-fourier-transformating-module and said filtering-module and said coding-module with said further-filtering-module in at least one feedback loop being situated between said splitting-module and said combining-module, and with said receiver-processor comprising a splitting-module for splitting said processed data into signal streams and a combining-module for combining signal streams into further processed data, with said fast-fourier-transformating-module and said decoding-module being situated between said splitting-module and said combining-module.

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3. Filterbank-based modulation system according to claim 2, wherein said coding-module comprises a sub-coding-module per signal stream, with said filtering-module comprising a sub-filtering-module per signal stream, with said further-filtering-module comprising a sub-further-filtering-module per signal stream, and with said decoding-module comprising a sub-decoding-module per signal stream.

4.

Filterbank-based modulation system according to claim 3, wherein said sub-further-filtering-modules receive input signals from outputs of said inverse-fast-fourier-

transformating-module and supply output signals via a fast-fourier-transformating-module to inputs of said sub-coding-modules via adding/subtracting-modules.

5. Filterbank-based modulation system according to claim 3, said sub-further-

filtering-modules receive input signals from outputs of said sub-coding-modules and supply output signal to inputs of said sub-coding-modules via adding/subtracting-modules.

6. Sender for use in a filterbank-based modulation system comprising said sender with a sender-processor for processing data and sending processed data to a receiver and

comprising said receiver with a receiver-processor for receiving and processing said 10 processed data, which sender-processor comprises an inverse-fast-fourier-transformating-module and a filtering-module and which receiver-processor comprises a fast-fourier-transformating-module, said sender-processor comprising a coding-module with a further-filtering-module in at least one feedback loop, which coding-module is situated before said 15 inverse-fast-fourier-transformating-module.

7. Sender-processor for use in a sender for use in a filterbank-based modulation system comprising said sender with said sender-processor for processing data and sending processed data to a receiver and comprising said receiver with a receiver-processor for

receiving and processing said processed data, which sender-processor comprises an inverse-fast-fourier-transformating-module and a filtering-module and which receiver-processor 20 comprises a fast-fourier-transformating-module, said sender-processor comprising a coding-module with a further-filtering-module in at least one feedback loop, which coding-module is situated before said inverse-fast-fourier-transformating-module.

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8. Processor program product to be run via a sender-processor for use in a sender for use in a filterbank-based modulation system comprising said sender with said sender-processor for processing data and sending processed data to a receiver and comprising said receiver with a receiver-processor for receiving and processing said processed data, which

30 sender-processor comprises an inverse-fast-fourier-transformating-module and a filtering-module and which receiver-processor comprises a fast-fourier-transformating-module, said sender-processor comprising a coding-module with a further-filtering-module in at least one feedback loop, which coding-module is situated before said inverse-fast-fourier-transformating-module.

9. Receiver for use in a filterbank-based modulation system comprising a sender with a sender-processor for processing data and sending processed data to said receiver and comprising said receiver with a receiver-processor for receiving and processing said processed data, which sender-processor comprises an inverse-fast-fourier-transformating-module and a filtering-module and which receiver-processor comprises a fast-fourier-transformating-module, said receiver-processor comprising a decoding-module situated after said fast-fourier-transformating-module.
- 10 10. Receiver-processor for use in a receiver for use in a filterbank-based modulation system comprising a sender with a sender-processor for processing data and sending processed data to said receiver and comprising said receiver with a receiver-processor for receiving and processing said processed data, which sender-processor comprises an inverse-fast-fourier-transformating-module and a filtering-module and which receiver-processor comprises a fast-fourier-transformating-module, said receiver-processor comprising a decoding-module situated after said fast-fourier-transformating-module.
11. Processor program product to be run via a receiver-processor for use in a receiver for use in a filterbank-based modulation system comprising a sender with a sender-processor for processing data and sending processed data to said receiver and comprising said receiver with a receiver-processor for receiving and processing said processed data, which sender-processor comprises an inverse-fast-fourier-transformating-module and a filtering-module and which receiver-processor comprises a fast-fourier-transformating-module, said receiver-processor comprising a decoding-module situated after said fast-fourier-transformating-module.
12. Method for filterbank-based modulation via a sender with a sender-processor for processing data and sending processed data to a receiver and via said receiver with a receiver-processor for receiving and processing said processed data, which method comprises the steps of performing inverse fast fourier transformations and of filtering signals in said sender and of performing fast fourier transformations in said receiver, said method comprising the steps of coding signals and of further filtering signals in at least one feedback loop in said sender, which coding is performed before said inverse fast fourier

transformations, and of decoding signals in said receiver, which decoding is performed after said fast fourier transformation.